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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,630	03/29/2004	Akihiko Shimasaki	KPC-0307	9861
23353 7590 11/27/2007 RADER FISHMAN & GRAUER PLLC LION BUILDING 1233 20TH STREET N.W., SUITE 501 WASHINGTON, DC 20036			EXAMINER FEELY, MICHAEL J	
			ART UNIT 1796	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/810,630

Applicant(s)

SHIMASAKI ET AL.

Examiner

Michael J. Feely

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Pending Claims***

Claims 1-11 are pending.

### ***Election/Restrictions***

1. Applicant's election with traverse of the species combination of {group (i) corrosion inhibitor and group (iii) corrosion inhibitor} in the reply filed on June 22, 2007 is acknowledged. In addition, Applicant's election with traverse of the sub-species combination of {Bi-Sb group (i) corrosion inhibitor and magnesium L-ascorbyl phosphate group (iii) corrosion inhibitor} in the reply filed on September 7, 2007 is acknowledged. The traversal is on the ground(s) that there is no undue burden on the Examiner. This is not found persuasive because:

With respect to the species election requirement between (i & iii), (i & ii), and (ii & iii), Applicant fails to show why the election requirement is in error. Furthermore, Applicant fails to demonstrate why there is no undue burden on the Examiner.

With respect to the subspecies election requirement, the following should be noted: "If the members of the Markush group are sufficiently few in number or so closely related that a search and examination of the entire claim can be made without serious burden, the examiner must examine all the members of the Markush group in the claim on the merits, even though they may be directed to independent and distinct inventions," - *see MPEP 803.02*. This is not the case in the instant application; hence, the subspecies election requirement is proper.

The requirement is still deemed proper and is therefore made FINAL.

2. Claim 10 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on September 7, 2007 and June 22, 2007.

3. The elected combination of subspecies have been searched and appear to be allowable over the prior art. However, the broader elected combination of species appear to be obvious in light of the prior art.

#### ***Response to Amendment***

4. The rejection of claims 1-8 under 35 U.S.C. 103(a) as being obvious over the following references in view of Sawada et al. (US Pat. No. 6,355,351); Nishiguchi et al. (US Pat. No. 6,942,922), Nishiguchi et al. (US Pat. No. 6,734,260), Nishiguchi et al. (US Pat. No. 6,761,973), and Shigeo et al. (US Pat. No. 6,680,122) *has been overcome by amendment*.

5. The rejection of claims 1, 2, 4-6, and 8 under 35 U.S.C. 103(a) as being obvious over Nishiguchi et al. (US Pat. No. 6,660,385) in view of Sawada et al. (US Pat. No. 6,355,351) *has been overcome by amendment*.

6. The rejection of claims 1-8 under 35 U.S.C. 103(a) as being unpatentable over the following references in view of Sawada et al. (US Pat. No. 6,355,351); Shigeo et al. (EP 1314768), Nishiguchi et al. (JP 2003-306636), Nishiguchi et al. (2003-221547), Nishiguchi et al. (US Pat. No. 6,503,629), Nishiguchi et al. (US Pat. No. 6,492,027), Shigeo et al. (Pub. No.: US 2002/0119318), Shigeo et al. (EP 1111013), Nishiguchi et al. (JP 2002-060454), and Nishiguchi et al. (JP 2001-279168) *has been overcome by amendment*.

7. The rejection of claims 1, 2, 4-6, and 8 under 35 U.S.C. 103(a) as being obvious over Nishiguchi et al. (Pub. No.: US 2002/0068172) in view of Sawada et al. (US Pat. No. 6,355,351) *has been overcome by amendment.*
8. The rejection of claims 1-8 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 16-18, and 22 of U.S. Patent No. 6,942,922 in view of Sawada et al. (US Pat. No. 6,355,351), *in light of the Specification (see In re Vogel), has been overcome by amendment.*
9. The rejection of claims 1-8 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 20-22, and 25 of U.S. Patent No. 6,734,260 in view of Sawada et al. (US Pat. No. 6,355,351), *in light of the Specification (see In re Vogel) has been overcome by amendment.*
10. The rejection of claims 1-8 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 11, and 15 of U.S. Patent No. 6,680,122 in view of Sawada et al. (US Pat. No. 6,355,351), *in light of the Specification (see In re Vogel) has been overcome by amendment.*
11. The rejection of claims 1, 2, 4-6, and 8 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 24-26, and 29 of U.S. Patent No. 6,660,385 in view of Sawada et al. (US Pat. No. 6,355,351), *in light of the Specification (see In re Vogel) has been overcome by amendment.*
12. The rejection of claims 1-8 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 13-15, and 18 of U.S.

Patent No. 6,503,629 in view of Sawada et al. (US Pat. No. 6,355,351), *in light of the Specification (see In re Vogel) has been overcome by amendment.*

13. The rejection of claims 1-8 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 20, and 23 of U.S.

Patent No. 6,492,027 in view of Sawada et al. (US Pat. No. 6,355,351), *in light of the Specification (see In re Vogel) has been overcome by amendment.*

14. The rejection of claims 1-8 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1-3, 8, and 19 of U.S.

Patent No. 6,761,973 in view of Sawada et al. (US Pat. No. 6,355,351) *has been overcome by amendment.*

15. The provisional rejection of claims 1-8 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined limitations of claims 13, 14, 16, 17, and 19 of copending Application No. 10/810,706 (Pub. No. US 2005/0214470) in light of the Specification and in view of Sawada et al. (US Pat. No. 6,355,351) *has been overcome by amendment.*

#### ***Claim Rejections - 35 USC § 112***

16. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

17. Claims 1, 4, 5, 8, 9, and 11 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. *A curing agent* is critical or essential to the practice of the

invention, but not included in the claim(s). Such an omission is not enabled by the disclosure.

See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). A curing agent is required to harden the base resin.

18. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

19. Claims 1-9 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the base resin". There is insufficient antecedent basis for this limitation in the claim. There is no previous mention of a base resin prior to this limitation. Claims 2-9 and 11 are rejected because they are dependent from claim 1.

Claims 2 and 3 recite the limitation "the curing agent" in the composition of claim 1. There is insufficient antecedent basis for this limitation in the claim. Claims 6 and 7 are rejected because they are dependent from claims 2 and 3.

20. Claims 1, 4, 5, 8, 9, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: *a curing agent*. A curing agent is required to harden the base resin.

*Claim Rejections - 35 USC § 103*

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

23. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

24. Claims 1-9 and 11 are rejected under 35 U.S.C. 103(a) as being obvious over the following references in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148): Nishiguchi et al. (US Pat. No. 6,942,922), Nishiguchi et al. (US Pat. No. 6,734,260), Nishiguchi et al. (US Pat. No. 6,761,973), and Shigeo et al. (US Pat. No. 6,680,122).

25. Claims 1, 2, 4-6, 8, 9, and 11 are rejected under 35 U.S.C. 103(a) as being obvious over Nishiguchi et al. (US Pat. No. 6,660,385) in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148).



The applied references have a common assignee with the instant application; however, the inventive entity is different. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Nishiguchi et al. (US Pat. No. 6,942,922) disclose: **(1)** a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (claims 1, 16 & 18); (2) a base resin (claims 1, 16 & 18); and (3) a curing agent (claims 1, 16 & 18); wherein the base resin is selected from the group consisting of: **(A)** a base resin (I), which is a xylene-formaldehyde-resin-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent of from 180 to 2500 with a xylene formaldehyde resin (2) and an amino-containing compound (3) (claims 1, 16 & 18); **(5)** an article coated with the coating composition as claimed in claim 1 (claims 1, 16, 18 & 22);

(2) wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (claims 1, 16 & 18); (6) an article coated with the coating composition as claimed in claim 2 (claims 1, 16, 18 & 22);

(3) wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (column 6, line 61 through column 7, line 65); (7) an article coated with the coating composition as claimed in claim 3 (claims 1, 16, 18 & 22);

(4) wherein the coating composition is a cationic electrodeposition coating (claims 1, 16 & 18); and (8) an article coated with the coating composition as claimed in claim 4 (claims 1, 16, 18 & 22).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see column 9, lines 15-20*.

Nishiguchi et al. (US Pat. No. 6,734,260) disclose: (1) a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (claims 1, 20 & 22); (2) a base resin (claims 1, 20 & 22); and (3) a curing agent (claims 1, 20 & 22); wherein the base resin is selected from the group consisting of: (A) a base resin (I), which is a xylene-formaldehyde-resin-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent of from 180 to 2500 with a xylene formaldehyde resin (2) and an amino-containing compound (3) (claims 1, 20 & 22); (5) an article coated with the coating composition as claimed in claim 1 (claims 1, 20, 22 & 25);

(2) wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (claims 1, 20 & 22); (6) an article coated with the coating composition as claimed in claim 2 (claims 1, 20, 22 & 25);

(3) wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (column 7, line 43 through column 8, line 44); (7) an article coated with the coating composition as claimed in claim 3 (claims 1, 20, 22 & 25);

(4) wherein the coating composition is a cationic electrodeposition coating (claims 1, 20 & 22); and (8) an article coated with the coating composition as claimed in claim 4 (claims 1, 20, 22 & 25).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see column 10, lines 1-6*.

Nishiguchi et al. (US Pat. No. 6,761,973) disclose: (1) a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (claims 1-3 & 8; column 11, line 61 through column 12, line 10); (2) a base resin (claims 1-3 & 8; column 11, line 61 through column 12, line 10); and (3) a curing agent (claims 1-3 & 8; column 11, line 61 through column 12, line 10); wherein the base resin is selected from the group consisting of: (B) a base resin (II), which is a polyol-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with a polyol compound (4) available by adding a caprolactone to a compound containing a plurality of active hydrogen groups and an amino-containing compound (3) (claims 1-3 & 8;

column 11, line 61 through column 12, line 10); **(5)** an article coated with the coating composition as claimed in claim 1 (claims 1-3, 8 & 19; column 11, line 61 through column 12, line 10);

**(2)** wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (claims 1-3 & 8; column 11, line 61 through column 12, line 10); **(6)** an article coated with the coating composition as claimed in claim 2 (claims 1-3, 8 & 19; column 11, line 61 through column 12, line 10);

**(3)** wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (claims 1-3 & 8; column 11, line 61 through column 12, line 10); **(7)** an article coated with the coating composition as claimed in claim 3 (claims 1-3, 8 & 19; column 11, line 61 through column 12, line 10);

**(4)** wherein the coating composition is a cationic electrodeposition coating (claims 1-3 & 8; column 11, line 61 through column 12, line 10); and **(8)** an article coated with the coating composition as claimed in claim 4 (claims 1-3, 8 & 19; column 11, line 61 through column 12, line 10).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see column 7, lines 26-32*.

Shigeo et al. (US Pat. No. 6,680,122) disclose: **(1)** a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (claims 1 & 11); (2) a base resin (claims 1 & 11); and (3) a curing agent (claims 1 & 11);

wherein the base resin is selected from the group consisting of: **(B)** a base resin (II), which is a polyol-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with a polyol compound (4) available by adding a caprolactone to a compound containing a plurality of active hydrogen groups and an amino-containing compound (3) (claims 1 & 11); **(5)** an article coated with the coating composition as claimed in claim 1 (claims 1, 11 & 15);

**(2)** wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (claims 1 & 11); **(6)** an article coated with the coating composition as claimed in claim 2 (claims 1, 11 & 15);

**(3)** wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (column 4, line 38 through column 5, line 16); **(7)** an article coated with the coating composition as claimed in claim 3 (claims 1, 11 & 15);

**(4)** wherein the coating composition is a cationic electrodeposition coating (claims 1 & 11); and **(8)** an article coated with the coating composition as claimed in claim 4 (claims 1, 11 & 15).

\*It should also be noted that Shigeo et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see column 6, lines 18-22*.

Nishiguchi et al. (US Pat. No. 6,660,385) disclose: **(1)** a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (claims 1 & 24-26); (2) a base resin (claims 1 & 24-26); and (3) a curing agent (claims

1 & 24-26); wherein the base resin is selected from the group consisting of: **(B)** a base resin (II), which is a polyol-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with a polyol compound (4) available by adding a caprolactone to a compound containing a plurality of active hydrogen groups and an amino-containing compound (3) (claims 1 & 24-26); and **(C)** a base resin (III), which is a polyol-modified amino-containing epoxy resin (III) obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with an alkyl phenol ( $v_1$ ) and/or a carboxylic acid ( $v_2$ ), a polyol compound (4) available by adding a caprolactone to a compound having a plurality of active hydrogen groups, and an amino-containing compound (3) (claims 1 & 24-26); **(5)** an article coated with the coating composition as claimed in claim 1 (claims 1, 24-26 & 29);

**(2)** wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (claims 1 & 24-26); **(6)** an article coated with the coating composition as claimed in claim 2 (claims 1, 24-26 & 29);

**(4)** wherein the coating composition is a cationic electrodeposition coating (claims 1 & 24-26); and **(8)** an article coated with the coating composition as claimed in claim 4 (claims 1, 24-26 & 29).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – see column 9, lines 41-45.

With respect to all of these prior art references, they disclose the use of a bismuth compound as a rust preventative material. They also contemplate the use of *extender pigments* in addition to *anti-corrosive pigments*. Hence, they do not disclose the use of: **(1)** a group (i)

corrosion inhibitor (*effective for both progress and generation of corrosion*) and a group (iii) corrosion inhibitor (*effective for generation of corrosion*); **(9)** wherein the group (i) corrosion inhibitor is selected from a list featuring calcite type porous  $\text{CaCO}_3$  (*see claim for entire list*); and **(11)** wherein the group (iii) corrosion inhibitor is selected from a list featuring lanthanum oxide (*see claim for entire list*).

Sawada et al. disclose an analogous cationic composition (*see Abstract*), which further includes a rust-preventive and/or extender pigment (*see column 8, lines 10-21*). They disclose, “The pigment described above includes, for example...rust preventive pigments such as *basic lead silicate, aluminum phosphomolybdate, aluminum tripolyphosphate, strontium chromate, zinc chromate, lead chromate, and bismuth-containing compounds.*” This disclosure demonstrates that aluminum phosphomolybdate, aluminum tripolyphosphate, and bismuth-containing compounds (*in addition to basic lead silicate, strontium chromate, and lead chromate*) are recognized in the art as equivalent rust preventive pigments for this type of epoxy-based cationic composition. In light of this, it has been found that the combining and/or substituting of equivalents known for the same purpose is *prima facie* obvious – *see MPEP 2144.06*.

Furthermore, they disclose suitable extender pigments, including *precipitated calcium carbonate* (*see column 8, lines 10-21*). The *precipitated calcium carbonate* appears to inherently overlap with the claimed species of *calcite type porous  $\text{CaCO}_3$* , based upon the information set forth in the instant Specification (*see paragraphs 0018-0023*). Hence, this disclosure demonstrates that precipitated calcium carbonate is recognized in the art as a suitable extender pigment for this type of epoxy-based cationic composition. This pigment would have been

expected to have the corrosion inhibiting properties of the instantly *claimed group (i) corrosion inhibitor* because it appears to inherently satisfy the claimed species of *calcite type porous  $\text{CaCO}_3$* . In light of this, it has been found that the selection of a known material based on its suitability for its intended use supports a *prima facie* obviousness determination – see *MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use precipitated calcium carbonate, as taught by Sawada et al., in the cationic compositions of the above-discussed prior art because the teachings of Sawada et al. demonstrate that these materials are recognized in the art as suitable extender pigments for this type of epoxy-based cationic composition. This pigment would have been expected to inherently feature the instantly claimed group (i) corrosion inhibiting properties because it appears to inherently satisfy the claimed species of *calcite type porous  $\text{CaCO}_3$* .

The combined teachings of the above-discussed prior art and Sawada et al. fall short of the instantly claimed invention because they fail to include the instantly claimed group (iii) corrosion inhibitor.

Yasuoka et al. disclose an electrodeposition paint composition containing at least one lanthanum compound (*corresponding to instantly claimed group (iii) corrosion inhibitor*). The lanthanum compound, including lanthanum oxide, is a corrosion inhibiting additive used as an environmentally-friendly substitute for lead-based and chromate-based (*including lead chromate, basic lead silicate, and strontium chromate*) rust inhibiting pigments (*see Abstract; column 1, lines 1-17 and 50-65*).



Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use lanthanum oxide, as taught by Yasuoka et al., in the combined teachings of the above-discussed prior art and Sawada et al. because Yasuoka et al. disclose that lanthanum compounds, including lanthanum oxide, are corrosion inhibiting additives used as an environmentally-friendly substitute for lead-based and chromate-based rust inhibiting pigments in electrodeposition paints.

Furthermore, Yasuoka et al. disclose that their lanthanum compounds can be used in concert with the extender and rust-preventative pigments set forth in the combined teachings of the above-discussed prior art and Sawada et al. Specifically, they disclose, "Useful other pigments are subject to no critical limitation so long as they are normally used pigments for electrodeposition paint. For example, any of coloring pigments such as titanium oxide, carbon black and iron red; extender pigments such as clay, mica, baryta, talc, *calcium carbonate*, and silica; and rust-preventative pigments such as *aluminum phosphomolybdate* and *aluminum tripolyphosphate*," (see column 2, lines 30-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use lanthanum oxide, as taught by Yasuoka et al., in the combined teachings of the above-discussed prior art and Sawada et al. because Yasuoka et al. disclose that lanthanum compounds, including lanthanum oxide, are environmentally-friendly corrosion inhibiting additives for electrodeposition paints, used in concert with the extender and rust-preventative pigments of the prior art combination.

26. Claims 1-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the following references in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148): Shigeo et al. (EP 1314768), Nishiguchi et al. (JP 2003-306636), Nishiguchi et al. (2003-221547), Nishiguchi et al. (US Pat. No. 6,503,629), Nishiguchi et al. (US Pat. No. 6,492,027), Shigeo et al. (Pub. No.: US 2002/0119318), Shigeo et al. (EP 1111013), Nishiguchi et al. (JP 2002-060454), and Nishiguchi et al. (JP 2001-279168).

27. Claims 1, 2, 4-6, 8, 9, and 11 are rejected under 35 U.S.C. 103(a) as being obvious over Nishiguchi et al. (Pub. No.: US 2002/0068172) in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148).

Shigeo et al. (EP 1314768) disclose: **(1)** a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (Abstract; paragraphs 0042, 0045 & 0049); (2) a base resin (Abstract; paragraphs 0042, 0045 & 0049); and (3) a curing agent (Abstract; paragraphs 0042, 0045 & 0049); wherein the base resin is selected from the group consisting of: **(A)** a base resin (I), which is a xylene-formaldehyde-resin-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent of from 180 to 2500 with a xylene formaldehyde resin (2) and an amino-containing compound (3) (Abstract; paragraphs 0042, 0045 & 0049); **(5)** an article coated with the coating composition as claimed in claim 1 (Abstract; paragraphs 0042, 0045 & 0049);

**(2)** wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (Abstract; paragraphs 0042, 0045 & 0049); **(6)** an article coated with the coating composition as claimed in claim 2 (Abstract; paragraphs 0042, 0045 & 0049);

(3) wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (Abstract; paragraphs 0042, 0045 & 0049); (7) an article coated with the coating composition as claimed in claim 3 (Abstract; paragraphs 0042, 0045 & 0049);

(4) wherein the coating composition is a cationic electrodeposition coating (Abstract; paragraphs 0042, 0045 & 0049); and (8) an article coated with the coating composition as claimed in claim 4 (Abstract; paragraphs 0042, 0045 & 0049).

\*It should also be noted that Shigeo et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see paragraph 0055*.

Nishiguchi et al. (JP 2003-306636) disclose: (1) a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (Abstract; paragraphs 0042-0043 & 0047); (2) a base resin (Abstract; paragraphs 0042-0043 & 0047); and (3) a curing agent (Abstract; paragraphs 0042-0043 & 0047); wherein the base resin is selected from the group consisting of: (A) a base resin (I), which is a xylene-formaldehyde-resin-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent of from 180 to 2500 with a xylene formaldehyde resin (2) and an amino-containing compound (3) (Abstract; paragraphs 0042-0043 & 0047); (5) an article coated with the coating composition as claimed in claim 1 (Abstract; paragraphs 0042-0043 & 0047);

(2) wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (Abstract; paragraphs 0042-0043 & 0047); (6) an article coated with the coating composition as claimed in claim 2 (Abstract; paragraphs 0042-0043 & 0047);

(3) wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (Abstract; paragraphs 0042-0043 & 0047); (7) an article coated with the coating composition as claimed in claim 3 (Abstract; paragraphs 0042-0043 & 0047);

(4) wherein the coating composition is a cationic electrodeposition coating (Abstract; paragraphs 0042-0043 & 0047); and (8) an article coated with the coating composition as claimed in claim 4 (Abstract; paragraphs 0042-0043 & 0047).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see paragraph 0053*.

Nishiguchi et al. (2003-221547) disclose: (1) a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (Abstract; paragraphs 0044 & 0051); (2) a base resin (Abstract; paragraphs 0044 & 0051); and (3) a curing agent (Abstract; paragraphs 0044 & 0051); wherein the base resin is selected from the group consisting of: (A) a base resin (I), which is a xylene-formaldehyde-resin-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent of from 180 to 2500 with a xylene formaldehyde resin (2) and an amino-containing compound (3) (Abstract; paragraphs 0044 & 0051); (5) an article coated with the coating composition as claimed in claim 1 (Abstract; paragraphs 0044 & 0051);

(2) wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (Abstract; paragraphs 0044 & 0051); (6) an article coated with the coating composition as claimed in claim 2 (Abstract; paragraphs 0044 & 0051);

(3) wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (Abstract; paragraphs 0044 & 0051); (7) an article coated with the coating composition as claimed in claim 3 (Abstract; paragraphs 0044 & 0051);

(4) wherein the coating composition is a cationic electrodeposition coating (Abstract; paragraphs 0044 & 0051); and (8) an article coated with the coating composition as claimed in claim 4 (Abstract; paragraphs 0044 & 0051).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see paragraph 0058*.

Nishiguchi et al. (US Pat. No. 6,503,629) disclose: (I) a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (claims 1 & 13-15); (2) a base resin (claims 1 & 13-15); and (3) a curing agent (claims 1 & 13-15); wherein the base resin is selected from the group consisting of: (B) a base resin (II), which is a polyol-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with a polyol compound (4) available by adding a caprolactone to a compound containing a plurality of active hydrogen groups and an amino-containing compound (3) (claims 1 & 13-15); (5) an article coated with the coating composition as claimed in claim 1 (claims 1, 13-15 & 18);

(2) wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (claims 1 & 13-15); (6) an article coated with the coating composition as claimed in claim 2 (claims 1, 13-15 & 18);

(3) wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (column 6, lines 16-30); (7) an article coated with the coating composition as claimed in claim 3 (claims 1, 13-15 & 18);

(4) wherein the coating composition is a cationic electrodeposition coating (claims 1 & 13-15); and (8) an article coated with the coating composition as claimed in claim 4 (claims 1, 13-15 & 18).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see column 7, lines 56-60*.

Nishiguchi et al. (US Pat. No. 6,492,027) disclose: (1) a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (claims 1 & 20); (2) a base resin (claims 1 & 20); and (3) a curing agent (claims 1 & 20); wherein the base resin is selected from the group consisting of: (B) a base resin (II), which is a polyol-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with a polyol compound (4) available by adding a caprolactone to a compound containing a plurality of active hydrogen groups and an amino-containing compound (3) (claims 1 & 20); (5) an article coated with the coating composition as claimed in claim 1 (claims 1, 20 & 23);

(2) wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (claims 1 & 20); (6) an article coated with the coating composition as claimed in claim 2 (claims 1, 20 & 23);

(3) wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (column 7, lines 25-40); (7) an article coated with the coating composition as claimed in claim 3 (claims 1, 20 & 23);

(4) wherein the coating composition is a cationic electrodeposition coating (claims 1 & 20); and (8) an article coated with the coating composition as claimed in claim 4 (claims 1, 20 & 23).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see column 9, lines 5-8*.

Shigeo et al. (Pub. No.: US 2002/0119318) disclose: (1) a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (claims 1 & 11-13); (2) a base resin (claims 1 & 11-13); and (3) a curing agent (claims 1 & 11-13); wherein the base resin is selected from the group consisting of: (B) a base resin (II), which is a polyol-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with a polyol compound (4) available by adding a caprolactone to a compound containing a plurality of active hydrogen groups and an amino-containing compound (3) (claims 1 & 11-13); (5) an article coated with the coating composition as claimed in claim 1 (claims 1, 11-13 & 16);

(2) wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (claims 1 & 11-13); (6) an article coated with the coating composition as claimed in claim 2 (claims 1, 11-13 & 16);

(3) wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (paragraphs 0040); (7) an article coated with the coating composition as claimed in claim 3 (claims 1, 11-13 & 16);

(4) wherein the coating composition is a cationic electrodeposition coating (claims 1 & 11-13); and (8) an article coated with the coating composition as claimed in claim 4 (claims 1, 11-13 & 16).

\*It should also be noted that Shigeo et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see paragraph 0051*.

Shigeo et al. (EP 1111013) disclose: (1) a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (Abstract; paragraphs 0032 & 0036); (2) a base resin (Abstract; paragraphs 0032 & 0036); and (3) a curing agent (Abstract; paragraphs 0032 & 0036); wherein the base resin is selected from the group consisting of: (B) a base resin (II), which is a polyol-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with a polyol compound (4) available by adding a caprolactone to a compound containing a plurality of active hydrogen groups and an amino-containing compound (3) (Abstract; paragraphs 0032 & 0036); (5) an article coated with the coating composition as claimed in claim 1 (Abstract; paragraphs 0032 & 0036);

(2) wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a



blocking agent (Abstract; paragraphs 0032 & 0036); **(6)** an article coated with the coating composition as claimed in claim 2 (Abstract; paragraphs 0032 & 0036);

**(3)** wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (Abstract; paragraphs 0032 & 0036); **(7)** an article coated with the coating composition as claimed in claim 3 (Abstract; paragraphs 0032 & 0036);

**(4)** wherein the coating composition is a cationic electrodeposition coating (Abstract; paragraphs 0032 & 0036); and **(8)** an article coated with the coating composition as claimed in claim 4 (Abstract; paragraphs 0032 & 0036).

\*It should also be noted that Shigeo et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see paragraph 0042*.

Nishiguchi et al. (JP 2002-060454) disclose: **(1)** a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (Abstract; paragraphs 0034 & 0038); (2) a base resin (Abstract; paragraphs 0034 & 0038); and (3) a curing agent (Abstract; paragraphs 0034 & 0038); wherein the base resin is selected from the group consisting of: **(B)** a base resin (II), which is a polyol-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with a polyol compound (4) available by adding a caprolactone to a compound containing a plurality of active hydrogen groups and an amino-containing compound (3) (Abstract; paragraphs 0034 & 0038); **(5)** an article coated with the coating composition as claimed in claim 1 (Abstract; paragraphs 0034 & 0038);

(2) wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (Abstract; paragraphs 0034 & 0038); (6) an article coated with the coating composition as claimed in claim 2 (Abstract; paragraphs 0034 & 0038);

(3) wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (Abstract; paragraphs 0034 & 0038); (7) an article coated with the coating composition as claimed in claim 3 (Abstract; paragraphs 0034 & 0038);

(4) wherein the coating composition is a cationic electrodeposition coating (Abstract; paragraphs 0034 & 0038); and (8) an article coated with the coating composition as claimed in claim 4 (Abstract; paragraphs 0034 & 0038).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see paragraph 0044*.

Nishiguchi et al. (JP 2001-279168) disclose: (1) a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (Abstract; paragraphs 0031 & 0035); (2) a base resin (Abstract; paragraphs 0031 & 0035); and (3) a curing agent (Abstract; paragraphs 0031 & 0035); wherein the base resin is selected from the group consisting of: (B) a base resin (II), which is a polyol-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with a polyol compound (4) available by adding a caprolactone to a compound containing a plurality of active hydrogen groups and an amino-containing compound (3) (Abstract;

paragraphs 0031 & 0035); **(5)** an article coated with the coating composition as claimed in claim 1 (Abstract; paragraphs 0031 & 0035);

**(2)** wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (Abstract; paragraphs 0031 & 0035); **(6)** an article coated with the coating composition as claimed in claim 2 (Abstract; paragraphs 0031 & 0035);

**(3)** wherein the curing agent is a block polyisocyanate curing agent (II) obtained by reacting an active-hydrogen-containing component propylene glycol with an aromatic polyisocyanate (Abstract; paragraphs 0031 & 0035); **(7)** an article coated with the coating composition as claimed in claim 3 (Abstract; paragraphs 0031 & 0035);

**(4)** wherein the coating composition is a cationic electrodeposition coating (Abstract; paragraphs 0031 & 0035); and **(8)** an article coated with the coating composition as claimed in claim 4 (Abstract; paragraphs 0031 & 0035).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see paragraph 0041*.

Nishiguchi et al. (Pub. No.: US 2002/0068172) disclose: **(1)** a coating composition used for coating of a steel material and/or aluminum material, comprising: (1) at least one corrosion inhibitor (claims 1 & 18-20); (2) a base resin (claims 1 & 18-20); and (3) a curing agent (claims 1 & 18-20); wherein the base resin is selected from the group consisting of: **(B)** a base resin (II), which is a polyol-modified amino-containing epoxy resin obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with a polyol compound (4) available by adding a caprolactone to a compound containing a plurality of active hydrogen groups and an

amino-containing compound (3) (claims 1 & 18-20); and (C) a base resin (III), which is a polyol-modified amino-containing epoxy resin (III) obtained by reacting an epoxy resin (1) having an epoxy equivalent weight of from 180 to 2500 with an alkyl phenol ( $v_1$ ) and/or a carboxylic acid ( $v_2$ ), a polyol compound (4) available by adding a caprolactone to a compound having a plurality of active hydrogen groups, and a amino-containing compound (3) (claims 1 & 18-20); (5) an article coated with the coating composition as claimed in claim 1 (claims 1, 18-20 & 23);

(2) wherein the curing agent is a curing agent (I), which is a blocked polyisocyanate compound obtained by blocking an isocyanate group of a polyisocyanate compound with a blocking agent (claims 1 & 18-20); (6) an article coated with the coating composition as claimed in claim 2 (claims 1, 18-20 & 23);

(4) wherein the coating composition is a cationic electrodeposition coating (claims 1 & 18-20); and (8) an article coated with the coating composition as claimed in claim 4 (claims 1, 18-20 & 23).

\*It should also be noted that Nishiguchi et al. contemplate the use of *extender pigments*, in addition to anti-corrosive pigments – *see paragraph 0085*.

With respect to all of these prior art references, they disclose the use of a bismuth compound as a rust preventative material. They also contemplate the use of *extender pigments* in addition to *anti-corrosive pigments*. Hence, they do not disclose the use of: (I) a group (i) corrosion inhibitor (*effective for both progress and generation of corrosion*) and a group (iii) corrosion inhibitor (*effective for generation of corrosion*); (9) wherein the group (i) corrosion is inhibitor is selected from a list featuring calcite type porous  $\text{CaCO}_3$  (*see claim for entire list*);

and **(11)** wherein the group (iii) corrosion inhibitor is selected from a list featuring lanthanum oxide (*see claim for entire list*).

Sawada et al. disclose an analogous cationic composition (*see Abstract*), which further includes a rust-preventive and/or extender pigment (*see column 8, lines 10-21*). They disclose, “The pigment described above includes, for example...rust preventive pigments such as *basic lead silicate, aluminum phosphomolybdate, aluminum tripolyphosphate, strontium chromate, zinc chromate, lead chromate, and bismuth-containing compounds.*” This disclosure demonstrates that aluminum phosphomolybdate, aluminum tripolyphosphate, and bismuth-containing compounds (*in addition to basic lead silicate, strontium chromate, and lead chromate*) are recognized in the art as equivalent rust preventive pigments for this type of epoxy-based cationic composition. In light of this, it has been found that the combining and/or substituting of equivalents known for the same purpose is *prima facie* obvious – *see MPEP 2144.06*.

Furthermore, they disclose suitable extender pigments, including *precipitated calcium carbonate* (*see column 8, lines 10-21*). The *precipitated calcium carbonate* appears to inherently overlap with the claimed species of *calcite type porous CaCO<sub>3</sub>*, based upon the information set forth in the instant Specification (*see paragraphs 0018-0023*). Hence, this disclosure demonstrates that precipitated calcium carbonate is recognized in the art as a suitable extender pigment for this type of epoxy-based cationic composition. This pigment would have been expected to have the corrosion inhibiting properties of the instantly ***claimed group (i) corrosion inhibitor*** because it appears to inherently satisfy the claimed species of *calcite type porous CaCO<sub>3</sub>*. In light of this, it has been found that the selection of a known material based on its

suitability for its intended use supports a *prima facie* obviousness determination – see *MPEP* 2144.07.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use precipitated calcium carbonate, as taught by Sawada et al., in the cationic compositions of the above-discussed prior art because the teachings of Sawada et al. demonstrate that these materials are recognized in the art as suitable extender pigments for this type of epoxy-based cationic composition. This pigment would have been expected to inherently feature the instantly claimed group (i) corrosion inhibiting properties because it appears to inherently satisfy the claimed species of *calcite type porous CaCO<sub>3</sub>*.

The combined teachings of the above-discussed prior art and Sawada et al. fall short of the instantly claimed invention because they fail to include the instantly claimed group (iii) corrosion inhibitor.

Yasuoka et al. disclose an electrodeposition paint composition containing at least one lanthanum compound (*corresponding to instantly claimed group (iii) corrosion inhibitor*). The lanthanum compound, including lanthanum oxide, is a corrosion inhibiting additive used as an environmentally-friendly substitute for lead-based and chromate-based (*including lead chromate, basic lead silicate, and strontium chromate*) rust inhibiting pigments (*see Abstract; column 1, lines 1-17 and 50-65*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use lanthanum oxide, as taught by Yasuoka et al., in the combined teachings of the above-discussed prior art and Sawada et al. because Yasuoka et al. disclose that lanthanum

compounds, including lanthanum oxide, are corrosion inhibiting additives used as an environmentally-friendly substitute for lead-based and chromate-based rust inhibiting pigments in electrodeposition paints.

Furthermore, Yasuoka et al. disclose that their lanthanum compounds can be used in concert with the extender and rust-preventative pigments set forth in the combined teachings of the above-discussed prior art and Sawada et al. Specifically, they disclose, "Useful other pigments are subject to no critical limitation so long as they are normally used pigments for electrodeposition paint. For example, any of coloring pigments such as titanium oxide, carbon black and iron red; extender pigments such as clay, mica, baryta, talc, *calcium carbonate*, and silica; and rust-preventative pigments such as *aluminum phosphomolybdate* and *aluminum tripolyphosphate*," (see column 2, lines 30-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use lanthanum oxide, as taught by Yasuoka et al., in the combined teachings of the above-discussed prior art and Sawada et al. because Yasuoka et al. disclose that lanthanum compounds, including lanthanum oxide, are environmentally-friendly corrosion inhibiting additives for electrodeposition paints, used in concert with the extender and rust-preventative pigments of the prior art combination.

### *Double Patenting*

28. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

29. Claims 1-9 and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 16-18, and 22 of U.S. Patent No. 6,942,922 in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148), *in light of the Specification (see In re Vogel)*.

30. Claims 1-9 and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 20-22, and 25 of U.S. Patent No. 6,734,260 in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148), *in light of the Specification (see In re Vogel)*.

31. Claims 1-9 and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 11, and 15 of U.S.



Patent No. 6,680,122 in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148), *in light of the Specification (see In re Vogel)*.

32. Claims 1, 2, 4-6, 8, 9, and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 24-26, and 29 of U.S. Patent No. 6,660,385 in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148), *in light of the Specification (see In re Vogel)*.

33. Claims 1-9 and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 13-15, and 18 of U.S. Patent No. 6,503,629 in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148), *in light of the Specification (see In re Vogel)*.

34. Claims 1-9 and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1, 20, and 23 of U.S. Patent No. 6,492,027 in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148), *in light of the Specification (see In re Vogel)*.

With respect to all of these prior art references, they disclose the use of a bismuth compound as a rust preventative material. They also contemplate the use of *extender pigments* in addition to *anti-corrosive pigments*. Hence, they do not disclose the use of: **(I)** a group (i) corrosion inhibitor (*effective for both progress and generation of corrosion*) and a group (iii) corrosion inhibitor (*effective for generation of corrosion*); **(9)** wherein the group (i) corrosion inhibitor is selected from a list featuring calcite type porous  $\text{CaCO}_3$  (*see claim for entire list*); and **(II)** wherein the group (iii) corrosion inhibitor is selected from a list featuring lanthanum oxide (*see claim for entire list*).

Sawada et al. disclose an analogous cationic composition (*see Abstract*), which further includes a rust-preventive and/or extender pigment (*see column 8, lines 10-21*). They disclose, “The pigment described above includes, for example...rust preventive pigments such as *basic lead silicate, aluminum phosphomolybdate, aluminum tripolyphosphate, strontium chromate, zinc chromate, lead chromate, and bismuth-containing compounds.*” This disclosure demonstrates that aluminum phosphomolybdate, aluminum tripolyphosphate, and bismuth-containing compounds (*in addition to basic lead silicate, strontium chromate, and lead chromate*) are recognized in the art as equivalent rust preventive pigments for this type of epoxy-based cationic composition. In light of this, it has been found that the combining and/or substituting of equivalents known for the same purpose is *prima facie* obvious – *see MPEP 2144.06*.

Furthermore, they disclose suitable extender pigments, including *precipitated calcium carbonate* (*see column 8, lines 10-21*). The *precipitated calcium carbonate* appears to inherently overlap with the claimed species of *calcite type porous CaCO<sub>3</sub>*, based upon the information set forth in the instant Specification (*see paragraphs 0018-0023*). Hence, this disclosure demonstrates that precipitated calcium carbonate is recognized in the art as a suitable extender pigment for this type of epoxy-based cationic composition. This pigment would have been expected to have the corrosion inhibiting properties of the instantly *claimed group (i) corrosion inhibitor* because it appears to inherently satisfy the claimed species of *calcite type porous CaCO<sub>3</sub>*. In light of this, it has been found that the selection of a known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use precipitated calcium carbonate, as taught by Sawada et al., in the cationic compositions of the above-discussed prior art because the teachings of Sawada et al. demonstrate that these materials are recognized in the art as suitable extender pigments for this type of epoxy-based cationic composition. This pigment would have been expected to inherently feature the instantly claimed group (i) corrosion inhibiting properties because it appears to inherently satisfy the claimed species of *calcite type porous CaCO<sub>3</sub>*.

The combined teachings of the above-discussed prior art and Sawada et al. fall short of the instantly claimed invention because they fail to include the instantly claimed group (iii) corrosion inhibitor.

Yasuoka et al. disclose an electrodeposition paint composition containing at least one lanthanum compound (*corresponding to instantly claimed group (iii) corrosion inhibitor*). The lanthanum compound, including lanthanum oxide, is a corrosion inhibiting additive used as an environmentally-friendly substitute for lead-based and chromate-based (*including lead chromate, basic lead silicate, and strontium chromate*) rust inhibiting pigments (*see Abstract; column 1, lines 1-17 and 50-65*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use lanthanum oxide, as taught by Yasuoka et al., in the combined teachings of the above-discussed prior art and Sawada et al. because Yasuoka et al. disclose that lanthanum compounds, including lanthanum oxide, are corrosion inhibiting additives used as an

environmentally-friendly substitute for lead-based and chromate-based rust inhibiting pigments in electrodeposition paints.

Furthermore, Yasuoka et al. disclose that their lanthanum compounds can be used in concert with the extender and rust-preventative pigments set forth in the combined teachings of the above-discussed prior art and Sawada et al. Specifically, they disclose, "Useful other pigments are subject to no critical limitation so long as they are normally used pigments for electrodeposition paint. For example, any of coloring pigments such as titanium oxide, carbon black and iron red; extender pigments such as clay, mica, baryta, talc, *calcium carbonate*, and silica; and rust-preventative pigments such as *aluminum phosphomolybdate* and *aluminum tripolyphosphate*," (see column 2, lines 30-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use lanthanum oxide, as taught by Yasuoka et al., in the combined teachings of the above-discussed prior art and Sawada et al. because Yasuoka et al. disclose that lanthanum compounds, including lanthanum oxide, are environmentally-friendly corrosion inhibiting additives for electrodeposition paints, used in concert with the extender and rust-preventative pigments of the prior art combination.

Furthermore, with respect to claims 3 and 7, the specifications of these patents disclose these embodiments as exemplary and preferred. In light of this, it has been found that those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent – *In re Vogel*, 422 F.2d 438, 441-42,

164 USPQ 619, 622 (CCPA 1970). The court in *Vogel* recognized “that it is most difficult, if not meaningless, to try to say what is or is not an obvious variation of a claim,” but that one can judge whether or not the invention claimed in an application is an obvious variation of an embodiment disclosed in the patent which provides support for the patent claim. According to the court, one must first “determine how much of the patent disclosure pertains to the invention claimed in the patent” because only “[t]his portion of the specification supports the patent claims and may be considered.” The court pointed out that “this use of the disclosure is not in contravention of the cases forbidding its use as prior art, nor is it applying the patent as a reference under 35 U.S.C. 103, since only the disclosure of the invention claimed in the patent may be examined,” – *see MPEP 804 II B 1*.

Therefore, the limitations of instant claims 3 and 7 would have been obvious because the patent documents disclose these limitations as exemplary and preferred embodiments of the patented invention.

35. Claims 1-9 and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined teachings of claims 1-3, 8, and 19 of U.S. Patent No. 6,761,973 in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148).

The claims of this patent do not explicitly disclose the use of corrosion inhibitor; however, the specification (*see column 11, line 60 through column 12, line 10*) discloses the use of a bismuth compound as an exemplary embodiment of the invention, along with extender pigments (*see column 7, lines 25-32*) (*see In re Vogel*).

As set forth above, the teachings of Sawada et al. and Yasuoka et al. render the claims obvious.

36. Claims 1-9 and 11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the combined limitations of claims 13, 14, 16, 17, and 19 of copending Application No. 10/810,706 (Pub. No. US 2005/0214470) in light of the Specification and in view of Sawada et al. (US Pat. No. 6,355,351) and Yasuoka et al. (US Pat. No. 5,298,148).

Again the Specification discloses the use of extender pigments (*see page 36 of the Specification*). As set forth above, the teachings of Sawada et al. and Yasuoka et al. render the claims obvious.

This is a provisional obviousness-type double patenting rejection.

*Conclusion*

37. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

38. This application contains claim 10 drawn to an invention nonelected with traverse in the reply filed on September 7, 2007 and June 22, 2007. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

*Communication*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely  
Primary Examiner  
Art Unit 1796

November 25, 2007

**MICHAEL FEELY  
PRIMARY EXAMINER**